Multi-State Standard Setting Report

Praxis Teaching Reading (0204)

December 2009

Conducted by

Educational Testing Service

Princeton, New Jersey

Executive Summary

To support the decision-making process for state departments of education with regards to establishing passing scores, or cut scores, for the Praxis Teaching Reading assessment, research staff from Educational Testing Service (ETS) designed and conducted two multi-state standard setting studies. The studies also collected content-related validity evidence to confirm the importance of the content specifications for entry-level reading teachers.

Recommended Cut Scores

The standard setting studies involved two expert panels, comprised of teachers, administrators and college faculty. The recommended cut scores for each panel, as well as the average cut score across the two panels, are provided to help state departments of education determine appropriate cut (or passing) scores.

- For Praxis Teaching Reading, the average recommended cut score is **68** (on the raw score metric), which represents 64% of total available 107 raw score points (the recommended cut scores for Panels 1 and 2 are 70 and 66, respectively). The scaled score associated with a raw score of 68 on the Praxis Teaching Reading assessment is 159.

Summary of Content Specification Judgments

Panelists judged the extent to which the knowledge and/or skills reflected by the Praxis Teaching Reading assessment content specifications were important for entry-level reading teachers. All the knowledge/skills statements comprising the content specifications were judged to be *Very Important* or *Important* by a majority of the panelists, providing additional evidence that the content of the Praxis Teaching Reading assessment is important for beginning practice.

Introduction

To support the decision-making process for state departments of education with regards to establishing passing scores, or cut scores, for the Praxis Teaching Reading assessment, research staff from Educational Testing Service (ETS) designed and conducted two multi-state standard setting studies. The studies also collected content-related validity evidence to confirm the importance of the content specifications for entry-level reading teachers. The standard setting studies involved two expert panels, comprised of teachers, reading specialists, state department of education staff, and college faculty. Panelists were recommended by departments of education of states that (a) currently use the Praxis Introduction to the Teaching of Reading assessment[1] or (b) are considering use of the new Praxis Teaching Reading assessment as part of their licensure process.

The design of the multi-state standard setting studies included two, non-overlapping panels to (a) allow each participating state to be represented and (b) replicate the judgment process to strengthen the technical quality of the recommended passing score. (See Appendix A for the common agenda used for both panels.) Across the two panels, 10 states were represented by 22 panelists (see Figure 1).

Figure 1. Participating States (and number of panelists) for Teaching Reading Panels

Connecticut (2 panelists)	North Carolina (3 panelists)
Hawaii (1 panelist)	New Jersey (3 panelists)
Indiana (1 panelist)	Ohio (2 panelists)
Kentucky (4 panelists)	South Carolina (2 panelists)
Montana (3panelists)	Wyoming (1 panelist)

NOTE: Hawaii, Indiana, Ohio, South Carolina, and Wyoming were represented on only one of the two panels.

The training provided to panelists as well as the study materials were consistent across panels with the exception of defining the "just qualified candidate." To assure that both panels were using the same frame of reference when making question-level standard setting judgments, the "just qualified candidate" definition developed through a consensus process by the first panel was used as the definition for the second panel. The second panel did complete a thorough review of the definition to allow panelists to internalize the definition. The processes for developing the definition (with Panel 1) and reviewing/internalizing the definition (with Panel 2) are described later, and the "just qualified candidate" definition is presented in Appendix B.

The panels were convened in October 2009 in Princeton, New Jersey. The results for each panel and results combined across panels are summarized in the following report. The technical report containing the

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[1] The new Praxis Teaching Reading assessment (0204) will replace the existing Praxis Introduction to the Teaching of Reading assessment (0200) in the fall 2010.

passing score recommendation for the Praxis Teaching Reading assessment is provided to each of the represented state departments of education. In each state, the department of education, the state board of education, or a designated educator licensure board is responsible for establishing the final passing score in accordance with applicable state regulations.

The first national administration of the new Praxis Teaching Reading assessment will occur in fall 2010. The current Praxis Introduction to the Teaching of Reading assessment will be phased out, with the last national administration in summer 2010.

Praxis Teaching Reading Assessment

The Praxis Teaching Reading *Test at a Glance* document (ETS, in press) describes the purpose and structure of the assessment. In brief, the assessment measures whether entry-level reading teachers have the knowledge and/or skills believed necessary for competent professional practice. A National Advisory Committee of reading teachers and college faculty defined the content of the assessment, and a national survey of the field confirmed the content.

The two hour assessment is divided into two parts. Part A contains 90 multiple-choice questions covering *Emergent Literacy* (15 questions); *Phonological Awareness* (14 questions); *Alphabetic Principle/Phonics and Word Analysis* (14 questions); *Comprehension and Fluency* (30 questions); and *Vocabulary* (17 questions). Part B contains three constructed-response questions coverings *Instructional Processes*. While the sections are not separately timed, suggested time limits of 90 minutes for Part A and 30 minutes for Part B are given to the candidates.

Candidates' overall scores as well as seven category scores are reported. The maximum total number of raw-score points that may be earned is 107. The reporting scale for the Praxis Teaching Reading assessment ranges from 100 to 200 scaled-score points.

Expert Panels

The standard setting studies for Praxis Teaching Reading included two expert panels. The various state departments of education recruited panelists to represent a range of professional perspectives. A description of the panels is presented below. (See Appendix C for a listing of panelists for each panel.)

Each panel was assembled to be comparable in terms of size, position (e.g., teacher, college faculty), experience, etc. However, eight of the 16 panelists who agreed to participate on Panel 1 were not able to attend, with notification coming too late in the process to recruit replacement panelists. The results was a smaller panel for the first study than Panel 2 (eight panelists compared to 15 panelists).

Panel 1 included seven teachers, reading specialists, state department of education staff, and college faculty who prepare reading teachers, representing six states[2]. In brief, four panelists were teachers or reading specialists, one was state department of education staff, and two were college faculty. Five panelists were White and two were African American. Six panelists were female. Six panelists reported being certified to teach reading in their states. More than half of the panelists had 8 or more years of experience teaching reading.

Panel 2 included 15 teachers, reading specialists, state department of education staff, and college faculty, representing nine states. In brief, seven panelists were teachers or reading specialists, three were state department of education staff, and four were college faculty. Thirteen panelists were White and two were African American. Thirteen panelists were female. Thirteen panelists reported being certified to teach reading in their states. A third of the panelists had 7 or fewer years of experience teaching reading, and 40 percent had 12 or more years of teaching experience.

A fuller demographic description for the members of the two panels is presented in Tables 1a and 1b in Appendix D.

Process and Method

The design of the Praxis Teaching Reading assessment standard setting studies included two non-overlapping expert panels. As described below, the training provided to panelists and study materials were consistent across panels. Any differences between panels (e.g., defining the "just qualified candidate") are highlighted.

The panelists were sent an e-mail explaining the purpose of the standard-setting study and requesting that they review the test content specifications for the Praxis Teaching Reading assessment (included in the Praxis Teaching Reading *Test at a Glance*, which was attached to the e-mail). The purpose of the review was to familiarize the panelists with the general structure and content of the assessment.

The standard-setting studies began with a welcome and introduction by Drs. Wanda Swiggett and Clyde Reese, ETS researchers in the Center for Validity Research. Dr. Reese, co-facilitator for the studies, then explained how the Praxis Teaching Reading assessment was developed, provided an overview of standard setting, and presented the agenda for the study.

Reviewing the Praxis Teaching Reading Assessment

The first activity was for the panelists to "take the test." (Each panelist had signed a nondisclosure form.) The panelists were given approximately an hour and a half to respond to the multiple-choice questions and to sketch responses to the constructed-response questions. The panelists had access to the answer key for the multiple-

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[2] One panelist who participated during the first day of the panel was not able to complete the study due to illness. The panelist's demographic information and partial data are not included in this report.

choice questions and access to the rubrics for the constructed response questions. The purpose of "taking the test" was for the panelists to become familiar with the test format, content, and difficulty.

The panelists then engaged in a discussion of the major content areas being addressed by the assessment; they were also asked to remark on any content areas that they thought would be particularly challenging for entering reading teachers, and areas that addressed content that would be particularly important for entering teachers.

Defining the JQC

Following the review of the assessment, panelists internalized the definition of the Just Qualified Candidate (JQC). The JQC is the test taker who has the minimum level of knowledge and skills believed necessary to be a qualified reading teacher. The JQC definition is the operational definition of the cut score. The goal of the standard-setting process is to identify the test score that aligns with this definition of the JQC.

In Panel 1, the panelists were split into two smaller groups, and each group was asked to write down their definition of a JQC. Each group referred to Praxis Teaching Reading *Test at a Glance* to guide their definition. Each group posted its definition on chart paper, and a full-panel discussion occurred to reach consensus on a final definition (Appendix B).

In Panel 2, the panelists began with the definition of the JQC developed by the first panel. Given that the multi-state standard setting studies were designed to replicate processes and procedures across the two panels, it was important that both panels use the same JQC definition to frame their judgments. For Panel 2, the panelists reviewed the JQC definition, and any ambiguities were discussed and clarified. The panelists then were split into three smaller groups, and each group discussed the behaviors they would expect of the JQC based on the definition and developed performance indicators or "can do" statements based on the definition. The performance indicators were shared across groups and discussed. The purpose of the exercise was to have the panelists internalize the definition.

Panelists' Judgments

The standard-setting process for the Praxis Teaching Reading assessment was conducted for the overall test, though one standard-setting approach was implemented for Part A (multiple-choice questions) and another approach was implemented for Part B (constructed-response questions). Each panel's passing score for the assessment is the sum of the interim cut scores recommended by the panelists for each section. As with scoring and reporting, the panelists' judgments for Part B, the constructed-response questions coving Instructional Processes, were weighted such that Part B contributed 25% of the overall score.

These approaches are described next, followed by the results. The recommended cut scores for each panel, as well as the average cut score across the two panels, are provided to help state departments of education determine appropriate cut (or passing) scores.

<u>Standard Setting for Sections I and II (Multiple-Choice Questions)</u>. A probability-based Angoff method (Brandon, 2004; Hambleton & Pitoniak, 2006) was used for Part A (multiple-choice questions). In this approach, for each question, a panelist decides on the likelihood (probability or chance) that a JQC would answer it correctly. Panelists made their judgments using the following rating scale: 0, .05, .10, .20, .30, .40, .50, .60, .70, .80, .90, .95, 1. The lower the value, the less likely it is that a JQC would answer the question correctly, because the question is difficult for the JQC. The higher the value, the more likely it is that a JQC would answer the question correctly.

For each panel, the panelists were asked to approach the judgment process in two stages. First, they reviewed the definition of the JQC and the question and decided if, overall, the question was difficult for the JQC, easy for the JQC, or moderately difficult/easy. The facilitator encouraged the panelists to consider the following rule of thumb to guide their decision:

- difficult questions for a JQC were in the 0 to .30 range;
- easy questions for a JQC were in the .70 to 1 range; and
- moderately difficult/easy questions for a JQC were in the .40 to .60 range.

The second decision was for panelists to decide how they wanted to refine their judgment within the range. For example, if a panelist thought that a question was easy for a JQC, the initial decision located the question in the .70 to 1 range. The second decision was for the panelist to decide if the likelihood of answering it correctly was .70, .80, .90, .95, or 1.0. The two-stage decision-process was implemented to reduce the cognitive load placed on the panelists. The panelists practiced making their standard-setting judgments on the first four questions in Part A.

The panelists engaged in two rounds of judgments. Following Round 1, feedback was provided to the panel, including each panelist's (listed by ID number) recommended cut scores for Part A (as well as cut scores for Part B) and the panel's average recommended cut score, highest and lowest cut score, and standard deviation. Following discussion, the panelists' judgments were displayed for each question. The panelists' judgments were summarized by the three general difficulty levels (0 to .30, .40 to .60, and .70 to 1), and the panel's average question judgment was provided. Questions were highlighted to show when panelists converged in their judgments (approximately two-thirds of the panelists located a question in the same difficulty range) or diverged in their judgments. Panelists were asked to share their rationales for the judgments they made. Following this

discussion, panelists were provided an opportunity to change their question-level standard-setting judgments (Round 2).

Other than the definition of the JQC, results from Panel 1 were not shared with the second panel. The question-level judgments and resulting discussions for Panel 2 were independent of judgments and discussions that occurred with Panel 1.

Standard Setting for Sections III and IV (Constructed-Response Questions). An Extended Angoff method (Cizek & Bunch, 2007; Hambleton & Plake, 1995) was used for Part B (constructed-response questions). In this approach, for each question, a panelist decides on the assigned score value that would most likely be earned by a JQC. The basic process that each panelist followed was first to review the definition of the JQC and then to review the question and the rubric for that question. The rubric for a question defines holistically the quality of the evidence that would merit a response earning a score of 3 (*thorough understanding*), 2 (*basic or general understanding*), 1 (*weak or limited understanding*) or 0 (*no understanding*). During this review, each panelist independently considered the level of knowledge and/or skill required to respond to the question and the features of a response that would earn 3, 2, 1, or 0 points, as defined by the rubric.

A test taker's response to a constructed-response question is independently scored by two raters, and the sum of the raters' scores is the assigned score[3]; possible scores, therefore, range from zero (both raters assigned a score of zero) to six (both raters assigned a score of three). Each panelist decided on the score most likely to be earned by a JQC from the following possible values: 0, 1, 2, 3, 4, 5, 6. For each of the three constructed-response questions, panelists recorded the score (0 through 6) that a JQC would most likely earn. The panelists practiced making their standard-setting judgments on the first constructed-response question in Part B.

Consistent with the standard-setting process used for Part A, the panelists engaged in two rounds of judgments for Part B. After the first round, the judgments of each panelist were summarized and projected for the panel to see and discuss. Each panelist's recommended cut score for Part B (as well as cut scores for Part A) was displayed as was the panel's average recommended cut score, highest and lowest cut score, and standard deviation. The panelists' judgments also were displayed for each question. The panelists participated in a general discussion of the results. Panelists were asked to share their rationales for the judgments they made. Following this discussion, panelists were provided an opportunity to change their question-level standard-setting judgments (Round 2).

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[3] If the two raters' scores differ by more than one point (non-adjacent), the Chief Reader for that question assigns the score, which is then doubled.

As with Part A, results from Panel 1 were not shared with the second panel. The question-level judgments and resulting discussions for Panel 2 were independent of judgments and discussions that occurred with Panel 1.

Judgment of Praxis Teaching Reading Content Specifications

In addition to the two-round standard setting process, each panel judged the importance of the knowledge and/or skills stated or implied in the assessment content specifications for the job of an entry-level reading teacher. These judgments addressed the perceived content-based validity of the assessment. Judgments were made using a four-point Likert scale — V*ery Important*, I*mportant*, S*lightly Important*, and N*ot Important*. Each panelist independently judged the 10 knowledge categories and subcategories as well as the 60 knowledge/skills statements. (See Appendix E for the content specifications for the Praxis Teaching Reading assessment.)

Results

Initial Evaluation Forms

The panelists completed an initial evaluation after receiving training on how to make question-level judgments. The primary information collected from this form was the panelists indicating if they had received adequate training to make their standard-setting judgments and were ready to proceed. Across both panels, all panelists indicated that they were prepared to make their judgments.

Summary of Standard Setting Judgments by Round

A summary of each round of standard-setting judgments for Part A (multiple-choice questions), Part B (constructed-response questions), and the overall assessment is presented in Appendix D. The numbers in each table reflect the recommended cut scores — the number of raw points needed to "pass" the part or assessment — of each panelist for the two rounds. For Part B, both weighted and unweighted cut scores are presented; for the overall assessment, only the weighted cut score is presented. Note that the Praxis Teaching Reading assessment report a single, overall score and that the panels are recommending a single cut score for the combination of Parts A and B. The separate "cut scores" for the two parts are intermediate steps in calculating the overall cut score. The panels' average recommended cut score and highest and lowest cut scores are reported, as are the standard deviations (SD) of panelists' cut scores and the standard errors of judgment (SEJ). The SEJ is one way of estimating the reliability of the judgments. It indicates how likely it would be for other panels of educators similar in make-up, experience, and standard-setting training to the current panels to recommend the same cut score on the same form of the test. A comparable panel's cut score would be within 1 SEJ of the current average cut score 68 percent of the time and within 2 SEJs 95 percent of the time.

Round 1 judgments are made without discussion among the panelists. The most variability in judgments, therefore, is typically present in the first round. Round 2 judgments, however, are informed by panel discussion;

thus, it is common to see a decrease both in the standard deviation and SEJ. This decrease — indicating convergence among the panelists' judgments — was observed for both panels. The Round 2 average (weighted) score is the panel's recommended cut score (passing score).

The panels' cut score recommendations for the Praxis Teaching Reading assessment are 69.91 for Panel 1 and 65.70 for Panel 2 (see Tables 2a and 2b in Appendix D). The values were rounded to the next highest whole number to determine the functional recommended cut scores — 70 for Panel 1 and 66 for Panel 2. The values of 70 and 66 represent approximately 65% and 62%, respectively, of the total available 107 raw-score points that could be earned on the assessment. The scaled scores associated with 70 and 66 raw points are 161 and 156, respectively.[4]

Tables 3a and 3b (in Appendix D) present the estimated standard errors of measurement (SEM) around the recommended cut scores for each panel. A standard error represents the uncertainty associated with a test score. The scaled scores associated with 1 and 2 SEMs above and below the recommended cut scores are provided. The standard errors provided are an estimate, given that the Praxis Teaching Reading assessment has not yet been administered.

In addition to the recommended cut scores for each panel, the average cut across the two panels is provided to help state departments of education determine an appropriate cut (or passing) score for the Praxis Teaching Reading assessment. The panels' average cut score recommendation for the Praxis Teaching Reading assessment is 67.81. The value was rounded to 68 (next highest raw score) to determine the functional recommended cut score. The value of 68 represents approximately 64% of the total available 107 weighted raw-score points that could be earned on the assessment. The scaled score associated with 68 raw points is 159.[5] Table 3c (in Appendix D) presents the standard error of measurement (SEM) around the recommended cut score combining the information from the two panels.

Summary of Content Specification Judgments

Panelists judged the extent to which the knowledge and/or skills reflected by the Praxis Teaching Reading assessment content specifications were important for entry-level reading teachers. Panelists rated the 10 knowledge categories and subcategories as well as the 60 knowledge/skills statements on a four-point scale ranging from *Very Important* to *Not Important*. The panelists' ratings are summarized in Table 4 (in Appendix D).

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[4] For reference purposes, if the recommended raw cut score were 69 or 65 points, the scaled score would be 160 or 155, respectively.
[5] For reference purposes, if the recommended raw cut score was 67 points, the scaled score would be 158.

All of the 10 knowledge categories and subcategories were judged to be *Very Important* or *Important* by 95% or more of the panelists. The knowledge categories of *Comprehension, Instructional Processes: Instructional Practices*, and *Instructional Processes: Assessment* (95% of panelists judged as *Very Important*) and *Vocabulary* (86% of panelists judged as *Very Important)* were seen as most important for beginning reading teachers. The knowledge category of *Instructional Processes: Curriculum Materials* (59% of panelists judged as *Very Important*) was seen as least important. All the remaining categories were seen as *Very Important* by at least 70% of the panelists.

The complete texts of the content specifications are presented in Appendix E.

Summary of Final Evaluations

The panelists completed an evaluation form at the conclusion of their standard setting study. The evaluation form asked the panelists to provide feedback about the quality of the standard-setting implementation and the factors that influenced their decisions. Tables 5a and 5b (in Appendix D) present the results of the final evaluations.

All panelists *strongly agreed* or *agreed* that they understood the purpose of the study; that the facilitators' instructions and explanations were clear; and that they were prepared to make their standard setting judgments. Across the two panels, more than two-thirds of the panels *strongly agreed* that the standard-setting process was easy to follow. The panelists reported that the definition of the JQC, between-round discussions, and their own professional experience influenced their standard-setting judgments. More than a third of the panelists (across the two panels) indicated that the cut scores of other panelists did not influence their judgments.

There were some minor differences between the two panels when asked to respond to their level of comfort with their panel's recommended passing score. Across both panels, no panelists indicated that they were *uncomfortable* with the recommended cut score; all panelists indicated they were *very* or *somewhat comfortable* with their recommendation. However, four panelists (over half of the panel) from Panel 1 reported being *somewhat comfortable* with their panel's recommended passing score compared to three panelists (or 20% of the panel) from Panel 2. For both panels, over 85% of the panelists indicated that the recommend cut score was *about right* and the remaining panelists (one panelist on Panel 1 and two panelists on Panel 2) indicating the cut score was *too low*.

Summary

To support the decision-making process for state departments of education with regards to establishing passing scores, or cut scores, for the Praxis Teaching Reading assessment, research staff from Educational Testing Service (ETS) designed and conducted two multi-state standard setting studies. The studies also collected content-related validity evidence to confirm the importance of the content specifications for entry-level reading teachers. The standard setting studies involved two expert panels, comprised of teachers, administrators, and college faculty.

The average recommended weighted cut score across the two panels is **68** (on the raw score metric), which represents 64% of total available 107 raw-score points (the recommended cut scores for Panels 1 and 2 are 70 and 66, respectively). The scaled score associated with a raw score of 68 on the Praxis Teaching Reading assessment is 159.

Both panels confirmed that the knowledge and/or skills stated or implied in the Praxis Teaching Reading assessment content specifications were important for entry-level reading teachers. The results of the evaluation surveys (initial and final) from each panel support the quality of the standard-setting implementation.

References

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APPENDIX A
Workshop Agenda

AGENDA

Praxis Teaching Reading Assessment

Standard Setting Study

Day 1

8:00 – 8:15	**Welcome and Introduction**
8:15 – 8:45	**Overview of Standard Setting & Workshop Events**
8:45 – 9:15	**Overview of the Praxis Teaching Reading Assessment**
9:15 – 9:20	**Break**
9:20 – 11:00	**"Take" the Praxis Teaching Reading Assessment**
11:00 – 11:30	**Discuss the Praxis Teaching Reading Assessment**
11:30 – 12:00	**Define the Knowledge/Skills of a JQC**
12:00 – 12:45	**Lunch**
12:45 – 3:00	**Define the Knowledge/Skills of a JQC (continued)**
3:00 – 3:15	**Break**
3:00 – 3:30	**Standard Setting Training for M-C Items**
3:30 – 5:15	**Round 1 Standard Setting Judgments for Multiple-Choice**
5:15 – 5:30	**Collect Materials; End of Day 1**

AGENDA

Praxis Teaching Reading Assessment

Standard Setting Study

Day 2

9:00 – 9:15	**Overview of Day 2**
9:15 – 9:45	**Standard Setting Training for CR Items**
9:45 – 10:15	**Round 1 Standard Setting Judgments for Constructed-Response**
10:15 – 10:20	**Break**
10:20 – 12:00	**Round 1 Feedback & Round 2 Judgments**
12:00 – 1:00	**Lunch**
1:00 – 2:15	**Round 1 Feedback & Round 2 Judgments (continued)**
2:15 – 3:00	**Specification Judgments**
3:00 – 3:15	**Feedback on Round 2 Recommended Cut Score**
3:15 – 3:30	**Complete Final Evaluation**
3:30 – 3:45	**Collect Materials; End of Study**

APPENDIX B
Just Qualified Candidate (JQC) Definition

Definition of the Just Qualified Candidate – Teaching Reading

The Just Qualified Candidate …

1. Understands factors that contribute to expressive and receptive language development and their impact on reading

2. Knows the stages of oral language acquisition

3. Can identify concepts of print (e.g., directionality, spacing, one-to-one word correspondence) as an emergent literacy skill

4. Understands the progressive relationship among phonemic awareness, phonological awareness, phonics, fluency, vocabulary, and comprehension and their impact on the reading process

5. Knows how to assess phonemic awareness, phonological awareness, phonics, fluency, vocabulary, and comprehension and use results to plan appropriate instructional strategies to address each area

6. Knows and applies the "assess-plan-teach" cycle to engage students and differentiate instruction

7. Understands how students' background knowledge and experiences impact reading development

APPENDIX C
Panelists' Names & Affiliations

Teaching Reading Panel 1

Panelist	Affiliation
Laura DiPietro	Little Silver Public Schools (NJ)
André L. DuLaney	8th Grade Language Arts Teacher, Louisville, KY
Donna Grace	University of Hawaii (HI)
Kris Goyins	Montana Office of Public Instruction (MT)
Tracy L. Sheradin	Alamance-Burlington School System (NC)
Corinne Thompson	Ledyard High School (CT)
Melinda R. Willis	Morehead State University (KY)

Teaching Reading Panel 2

Panelist	**Affiliation**
James F.Baumann	University of Wyoming (WY)
Cynthia D. Bertelsen	Bowling Green State University (OH)
Sandra Faye Bullock	Granville County Schools (NC)
Kelly A. Duwve	Sylvania City Schools (OH)
Rhonda Suzanne Jacobs	Jefferson County Public Schools (KY)
Jennifer D. Montgomery	Western Kentucky University (KY)
Michele Paine	Kalispell Public Schools (MT)
Courtney S. Peterson	Montana Office of Public Instruction (MT)
Lauren K. Rossi	Georgian Court University (NJ)
Terrell Seawell Tracy	South Carolina Department of Education (SC)
Jennifer VanGinhoven	Cherry Hill Public Schools (NJ)
Becky Virgalla	Newtown Public School District (CT)
Shelthia C. Williams	Hoke County Schools (NC)
Pamela S. Wills	South Carolina Department of Education (SC)
John Wolf	Indiana Department of Education (IN)

APPENDIX D
Results for Praxis Teaching Reading

Table 1a Panel Member Demographics — Teaching Reading (Panel 1)

	N	Percent
Group you are representing		
Teachers	3	43%
Reading Specialists	1	14%
College Faculty	2	29%
State Department of Education	1	14%
Race		
African American or Black	2	29%
Alaskan Native or American Indian	0	0%
Asian or Asian American	0	0%
Native Hawaiian or Other Pacific Islander	0	0%
White	5	71%
Hispanic	0	0$
Gender		
Female	6	86%
Male	1	14%
Are you certified as a reading teacher in your state?		
No	1	86%
Yes	6	14%
Are you currently teaching reading in your state?		
No	2	29%
Yes	5	71%
Are you currently mentoring another reading teacher?		
No	5	71%
Yes	2	29%
How many years of experience do you have as a reading teacher?		
3 years or less	1	14%
4 - 7 years	2	29%
8 - 11 years	2	29%
12 - 15 years	1	14%
16 years or more	1	14%
For which education level are you currently teaching reading?		
Elementary (K - 5 or K - 6)	1	14%
Middle School (6 - 8 or 7 - 9)	1	14%
High School (9 - 12 or 10 - 12)	2	29%
All Grades (K - 12)	1	14%
Higher Education	2	29%
School Setting		
Urban	2	29%
Suburban	2	29%
Rural	3	43%

Table 1b Panel Member Demographics — Teaching Reading (Panel 2)

	N	Percent
Group you are representing		
Teachers	4	27%
Reading Specialist	3	20%
College Faculty	4	27%
State Department of Education	3	20%
Other	1	7%
Race		
African American or Black	2	13%
Alaskan Native or American Indian	0	0%
Asian or Asian American	0	0%
Native Hawaiian or Other Pacific Islander	0	0%
White	13	87%
Hispanic	0	0%
Gender		
Female	13	87%
Male	2	13%
Are you certified as a reading teacher in your state?		
No	2	13%
Yes	13	87%
Are you currently teaching reading in your state?		
No	6	40%
Yes	9	60%
Are you currently mentoring another reading teacher?		
No	10	67%
Yes	5	33%
How many years of experience do you have as a reading teacher?		
3 years or less	1	7%
4 - 7 years	4	27%
8 - 11 years	4	27%
12 - 15 years	4	27%
16 years or more	2	13%
For which education level are you currently teaching reading?		
Elementary (K - 5 or K - 6)	6	40%
Middle School (6 - 8 or 7 - 9)	2	13%
High School (9 - 12 or 10 - 12)	0	0%
All Grades (K - 12)	3	20%
Higher Education	4	27%
School Setting		
Urban	4	31%
Suburban	4	31%
Rural	5	38%

Table 2a Cut score Summary by Round of Judgments — Teaching Reading (Panel 1)

Panelist	Round 1			Round 2		
	Part A	Part B (weighted)	Total	Part A	Part B (weighted)	Total
1	55.50	16.50	**72.00**	55.60	18.00	**73.60**
2	53.10	18.00	**71.10**	54.20	18.00	**72.20**
3	46.30	19.50	**65.80**	47.60	19.50	**67.10**
4	45.25	16.50	**61.75**	46.25	16.50	**62.75**
5	44.40	18.00	**62.40**	48.20	18.00	**66.20**
6	63.20	12.00	**75.20**	61.05	15.00	**76.05**
7	54.60	18.00	**72.60**	53.50	18.00	**71.50**
Average	51.76	16.93	**68.69**	52.34	17.57	**69.91**
Lowest	44.40	12.00	**61.75**	46.25	15.00	**62.75**
Highest	63.20	19.50	**75.20**	61.05	19.50	**76.05**
SD	6.84	2.41	**5.33**	5.29	1.43	**4.69**
SEJ	2.59	0.91	**2.01**	2.00	0.54	**1.77**

Table 2b Cut score Summary by Round of Judgments — Teaching Reading (Panel 2)

Panelist	Round 1			Round 2		
	Part A	Part B (weighted)	Total	Part A	Part B (weighted)	Total
1	46.55	18.00	**64.55**	46.90	18.00	**64.90**
2	53.15	16.50	**69.65**	53.55	16.50	**70.05**
3	54.85	16.50	**71.35**	55.15	18.00	**73.15**
4	55.70	18.00	**73.70**	54.10	18.00	**72.10**
5	53.10	16.50	**69.60**	52.40	16.50	**68.90**
6	46.20	18.00	**64.20**	46.00	18.00	**64.00**
7	45.30	15.00	**60.30**	45.20	16.50	**61.70**
8	50.75	18.00	**68.75**	49.15	18.00	**67.15**
9	50.65	15.00	**65.65**	49.35	16.50	**65.85**
10	51.35	15.00	**66.35**	51.45	15.00	**66.45**
11	54.60	16.50	**71.10**	53.70	16.50	**70.20**
12	42.60	15.00	**57.60**	43.50	15.00	**58.50**
13	42.20	15.00	**57.20**	42.00	15.00	**57.00**
14	48.25	21.00	**69.25**	49.25	19.50	**68.75**
15	43.55	12.00	**55.55**	44.75	12.00	**56.75**
Average	49.25	16.40	**65.65**	49.10	16.60	**65.70**
Lowest	42.20	12.00	**55.55**	42.00	12.00	**56.75**
Highest	55.70	21.00	**73.70**	55.15	19.50	**73.15**
SD	4.63	2.08	**5.68**	4.22	1.83	**5.24**
SEJ	1.19	0.54	**1.47**	1.09	0.47	**1.35**

Table 3a Cut scores ± 1 and 2 SEMs of the Recommended Cut score — Teaching Reading (Panel 1)

Recommended Cut score (SEM)		Scale Score Equivalent
70 (4.73)		161
- 2 SEMs	61	150
-1 SEM	66	156
+1 SEM	75	167
+ 2 SEMs	80	173

Table 3b Cut scores ±1 and 2 SEMs of the Recommended Cut score — Teaching Reading (Panel 2)

Recommended Cut score (SEM)		Scale Score Equivalent
66 (4.82)		156
- 2 SEMs	57	145
-1 SEM	62	151
+1 SEM	71	162
+ 2 SEMs	76	169

Table 3c Cut scores ± 1 and 2 SEMs of the Recommended Cut score — Teaching Reading (Combined))

Recommended Cut score (SEM)		Scale Score Equivalent
68 (4.79)		159
- 2 SEMs	59	148
-1 SEM	64	154
+1 SEM	73	165
+ 2 SEMs	78	171

Note: Consistent with the recommended cut score, the cut scores at the different SEMs have been rounded to the next highest whole number.

Table 4 Specification Judgments — Teaching Reading (Combined Panels)

	Very Important		Important		Slightly Important		Not Important	
	N	%	N	%	N	%	N	%
I.A. Emergent Literacy: Oral Language	**16**	**73%**	**6**	**27%**	**0**	**0%**	**0**	**0%**
• Statement 1	18	82%	4	18%	0	0%	0	0%
• Statement 2	9	41%	13	59%	0	0%	0	0%
• Statement 3	15	68%	7	32%	0	0%	0	0%
• Statement 4	14	64%	8	36%	0	0%	0	0%
• Statement 5	9	41%	12	55%	1	5%	0	0%
I.B. Emergent Literacy: Concept of Print	**17**	**77%**	**4**	**18%**	**1**	**5%**	**0**	**0%**
• Statement 1	12	55%	9	41%	1	5%	0	0%
• Statement 2	13	59%	9	41%	0	0%	0	0%
• Statement 3	21	95%	1	5%	0	0%	0	0%
• Statement 4	10	45%	11	50%	1	5%	0	0%
• Statement 5	15	68%	7	32%	0	0%	0	0%
• Statement 6	17	77%	5	23%	0	0%	0	0%
• Statement 7	11	50%	11	50%	0	0%	0	0%
II. Phonological Awareness	**16**	**73%**	**6**	**27%**	**0**	**0%**	**0**	**0%**
• Statement 1	8	36%	12	55%	2	9%	0	0%
• Statement 2	11	50%	10	45%	1	5%	0	0%
• Statement 3	12	55%	10	45%	0	0%	0	0%
• Statement 4	8	36%	12	55%	2	9%	0	0%
• Statement 5	17	81%	3	14%	1	5%	0	0%
• Statement 6	12	55%	8	36%	2	9%	0	0%
III. Alphabetic Principle/Phonics & Word Analysis	**17**	**77%**	**5**	**23%**	**0**	**0%**	**0**	**0%**
• Statement 1	11	50%	9	41%	2	9%	0	0%
• Statement 2	4	18%	17	77%	1	5%	0	0%
• Statement 3	14	64%	8	36%	0	0%	0	0%
• Statement 4	7	32%	14	64%	1	5%	0	0%
• Statement 5	6	27%	13	59%	3	14%	0	0%
• Statement 6	17	77%	4	18%	1	5%	0	0%
• Statement 7	16	73%	5	23%	1	5%	0	0%
• Statement 8	13	59%	7	32%	2	9%	0	0%
• Statement 9	15	68%	6	27%	1	5%	0	0%
IV.A. Comprehension	**21**	**95%**	**1**	**5%**	**0**	**0%**	**0**	**0%**
• Statement 1	17	77%	5	23%	0	0%	0	0%
• Statement 2	18	82%	4	18%	0	0%	0	0%
• Statement 3	14	64%	8	36%	0	0%	0	0%
• Statement 4	18	82%	4	18%	0	0%	0	0%
• Statement 5	17	77%	5	23%	0	0%	0	0%
• Statement 6	8	36%	12	55%	2	9%	0	0%
• Statement 7	14	64%	8	36%	0	0%	0	0%
• Statement 8	10	45%	11	50%	1	5%	0	0%
• Statement 9	10	45%	12	55%	0	0%	0	0%
• Statement 10	17	77%	5	23%	0	0%	0	0%
• Statement 11	21	95%	1	5%	0	0%	0	0%
• Statement 12	20	91%	1	5%	1	5%	0	0%

Table 4 Specification Judgments — Teaching Reading (Combined Panels)

	Very Important		Important		Slightly Important		Not Important	
	N	**%**	**N**	**%**	**N**	**%**	**N**	**%**
IV.B. Fluency	**16**	**73%**	**6**	**27%**	**0**	**0%**	**0**	**0%**
• Statement 1	18	82%	4	18%	0	0%	0	0%
• Statement 2	14	64%	8	36%	0	0%	0	0%
• Statement 3	8	36%	13	59%	1	5%	0	0%
• Statement 4	18	82%	4	18%	0	0%	0	0%
• Statement 5	15	68%	7	32%	0	0%	0	0%
V. Vocabulary	**19**	**86%**	**3**	**14%**	**0**	**0%**	**0**	**0%**
• Statement 1	16	73%	5	23%	1	5%	0	0%
• Statement 2	12	55%	10	45%	0	0%	0	0%
• Statement 3	9	41%	12	55%	1	5%	0	0%
• Statement 4	17	77%	5	23%	0	0%	0	0%
• Statement 5	15	68%	6	27%	1	5%	0	0%
• Statement 6	7	32%	13	59%	2	9%	0	0%
• Statement 7	20	91%	2	9%	0	0%	0	0%
• Statement 8	14	64%	8	36%	0	0%	0	0%
VI.A. Instructional Processes: Instructional Practices	**21**	**95%**	**1**	**5%**	**0**	**0%**	**0**	**0%**
• Statement 1	21	95%	1	5%	0	0%	0	0%
• Statement 2	19	86%	3	14%	0	0%	0	0%
VI.B. Instructional Processes: Curriculum Material	**13**	**59%**	**8**	**36%**	**1**	**5%**	**0**	**0%**
• Statement 1	13	59%	9	41%	0	0%	0	0%
• Statement 2	11	50%	9	41%	2	9%	0	0%
• Statement 3	11	50%	10	45%	1	5%	0	0%
VI.C. Instructional Processes: Assessment	**21**	**95%**	**0**	**0%**	**1**	**5%**	**0**	**0%**
• Statement 1	18	82%	3	14%	1	5%	0	0%
• Statement 2	20	91%	2	9%	0	0%	0	0%
• Statement 3	13	59%	9	41%	0	0%	0	0%

Table 5a Final Evaluation — Teaching Reading (Panel 1)

	Strongly Agree		Agree		Disagree		Strongly Disagree	
	N	%	N	%	N	%	N	%
I understood the purpose of this study.	7	100%	0	0%	0	0%	0	0%
The instructions and explanations provided by the facilitator were clear.	6	86%	1	14%	0	0%	0	0%
The training in the standard setting methods was adequate to give me the information I needed to complete my assignment.	6	86%	1	14%	0	0%	0	0%
The explanation of how the recommended cut scores are computed was clear.	6	86%	1	14%	0	0%	0	0%
The opportunity for feedback and discussion between rounds was helpful.	7	100%	0	0%	0	0%	0	0%
The process of making the standard setting judgments was easy to follow.	5	71%	2	29%	0	0%	0	0%

	Very Influential		Somewhat Influential		Not Influential	
How influential was each of the following factors in guiding your standard setting judgments?	N	%	N	%	N	%
The definition of the Just Qualified Candidate	3	43%	4	57%	0	0%
The between-round discussions	3	43%	4	57%	0	0%
The cut scores of other panel members	1	14%	2	29%	4	57%
My own professional experience	3	43%	4	57%	0	0%

	Very Comfortable		Somewhat Comfortable		Somewhat Uncomfortable		Very Uncomfortable	
	N	%	N	%	N	%	N	%
Overall, how comfortable are you with the panel's recommended cut scores?	3	43%	4	57%	0	0%	0	0%

	Too Low		About Right		Too High	
	N	%	N	%	N	%
Overall, the panel's recommended cut score for the Praxis Teaching Reading test is:	1	14%	6	86%	0	0%

Table 5b Final Evaluation — Teaching Reading (Panel 2)

	Strongly Agree		Agree		Disagree		Strongly Disagree	
	N	%	N	%	N	%	N	%
I understood the purpose of this study.	14	93%	1	7%	0	0%	0	0%
The instructions and explanations provided by the facilitator were clear.	13	87%	2	13%	0	0%	0	0%
The training in the standard setting methods was adequate to give me the information I needed to complete my assignment.	12	80%	3	20%	0	0%	0	0%
The explanation of how the recommended cut scores are computed was clear.	14	93%	1	7%	0	0%	0	0%
The opportunity for feedback and discussion between rounds was helpful.	13	87%	2	13%	0	0%	0	0%
The process of making the standard setting judgments was easy to follow.	12	80%	3	20%	0	0%	0	0%

	Very Influential		Somewhat Influential		Not Influential	
How influential was each of the following factors in guiding your standard setting judgments?	N	%	N	%	N	%
The definition of the Just Qualified Candidate	10	67%	5	33%	0	0%
The between-round discussions	11	73%	3	20%	1	7%
The cut scores of other panel members	2	13%	9	60%	4	27%
My own professional experience	10	67%	5	33%	0	0%

	Very Comfortable		Somewhat Comfortable		Somewhat Uncomfortable		Very Uncomfortable	
	N	%	N	%	N	%	N	%
Overall, how comfortable are you with the panel's recommended cut scores?	12	80%	3	20%	0	0%	0	0%

	Too Low		About Right		Too High	
	N	%	N	%	N	%
Overall, the panel's recommended cut score for the Praxis Teaching Reading test is:	2	13%	13	87%	0	0%

APPENDIX E
Praxis Teaching Reading Content Specifications

Part A (Multiple Choice)

I.   Emergent Literacy

A.   Oral Language

The reading teacher:

- Understands the interrelatedness between oral language development and reading skills such as phonemic awareness, vocabulary, fluency, and comprehension
- Recognizes receptive and expressive components associated with stages of oral language development
- Understands how environmental influences affect students' oral language development
- Knows how to model the rules of standard English while respecting regional and dialectical variations
- Understands appropriate techniques to assess students' oral language development

B.   Concept of Print

The reading teacher

- Recognizes the interrelatedness between print and speech
- Understands how environmental print, pictures, and symbols contribute to literacy development
- Understands the importance of modeling one-to-one word correspondence and directionality, including left-to-right, top-to-bottom, front-to-back
- Understands how environmental influences affect students' development of print awareness
- Understands the importance of students' being able to differentiate words and spaces, first and last letters, and identification of basic punctuation
- Understands appropriate strategies for teaching letter recognition
- Knows appropriate techniques, including observation, to assess students' print awareness

II.   Phonological Awareness

The reading teacher

- Understands the relationship between phonological and phonemic awareness
- Understands the fundamental relationship between phonemic awareness and the development of decoding and encoding skills
- Understands the progression of phonological awareness skills (e.g., manipulating sounds in spoken words, progressing from words in sentences to compound word parts and syllables, to onsets and rimes, and finally to phonemes)
- Knows the age ranges at which the various phonological awareness skills should be acquired and how that knowledge applies to instructional practice
- Knows systematic and explicit instructional strategies for teaching phonological awareness skills
- Understands the theory and practice of effective techniques to assess students' phonological awareness

III. Alphabetic Principle/Phonics & Word Analysis

The reading teacher
- Understands the differences between phonics and phonological awareness
- Understands the developmental stages that readers of all ages progress through when learning to decode and encode (spell)
- Understands that the instruction of phonics for decoding and encoding progresses from simple to more complex (e.g., letter-sound correspondences, blends, and digraphs)
- Understands how to differentiate between phonetically regular and irregular words
- Knows syllable types and syllabication principles
- Understands systematic and explicit instructional strategies for teaching phonics and word analysis
- Understands instructional strategies for reading and spelling multisyllabic words using meaningful units, such as morphemes, syllables, and accenting principles
- Understands that the use of decodable text, writing practice, and spelling practice can reinforce specific phonics skills
- Knows effective techniques to assess students' phonics and word analysis skills (e.g., formal and informal phonics and spelling inventories)

IV. Comprehension and Fluency

A. Comprehension

The reading teacher
- Understands the relationship between students' background knowledge and comprehension
- Understands that vocabulary is an important part of comprehension
- Understands the relationship between comprehension and students' cultural and linguistic backgrounds
- Understands how to use systematic and explicit instruction to develop comprehension skills (i.e., self-monitoring, using graphic organizers and story structures, generating questions, and summarizing)
- Understands that students should use multiple strategies to enhance reading comprehension
- Understands the role of language structures of text (e.g., sentence, phrase, paragraph) in comprehension
- Understands the role that features of text (e.g., headings, subheadings) play in comprehension
- Understands how to use genres of written text that have recognizable structures to enhance comprehension
- Understands how to use writing activities to support reading comprehension
- Knows how to model effective strategies for comprehending a variety of writing styles, such as narrative, expository, descriptive, and persuasive
- Knows how to choose appropriate text for students, taking into account interest and ability level
- Understands effective formal and informal methods to assess students' reading comprehension

B. Fluency

The reading teacher
- Understands that fluency with all components of reading acts as a bridge to the comprehension of text
- Understands that oral reading fluency consists of accuracy, appropriate rate, automaticity, and prosody (i.e., intonation, expression, and flow)
- Understands that fluency in the different components of reading can be developed through various strategies such as blending repeated use of word lists, phrases, and passages at appropriate instructional levels
- Understands how to use effective instructional strategies to improve oral reading fluency
- Understands how to use formal and informal methods of assessing reading fluency

V. Vocabulary

The reading teacher
- Knows how to model the use of context as a strategy to confirm word meaning
- Understands how common prefixes, suffixes, and roots affect the meaning of English words
- Understands basic word relationships such as synonyms, antonyms, and homonyms
- Understands how to use direct and indirect methods to teach vocabulary
- Understands how to select appropriate words for vocabulary instruction
- Understands how grammatical functions and word forms affect meaning
- Understands the importance of both offering a wide range of reading opportunities and providing materials with rich contextual support for vocabulary development
- Understands how to assess and monitor vocabulary knowledge

Part B (Constructed Response)

VI.   Instructional Processes
A.   Instructional Practices
The reading teacher
- Creates a learning environment that supports literacy development by incorporating motivational strategies that encourage active student engagement
- Understands a variety of strategies to differentiate instruction

B.   Curriculum Materials
The reading teacher
- Recognizes the differences in kinds of texts and their various uses
- Understands how to select instructional materials that reflect societal diversity
- Understands how to integrate appropriate technology to support literacy instruction

C.   Assessment
The reading teacher
- Understands how to use a variety of types of assessments
- Uses assessment data to inform instruction
- Communicates students' progress in reading to stakeholders (i.e., parents and administration)